

# Test

- Slope and linear equations

$$y = m(x - x_1) + y_1 \quad m = \frac{y_2 - y_1}{x_2 - x_1}$$

- functions

→ Notation

→ Graphs

→ solving

→ Domain + Range

- Data Spread

→ mean

→ Standard Deviation

- find it
- within  $1\sigma$

→ Normal Distribution

- Histograms

① Solve for x

①  $\frac{2}{5} = \frac{3}{x}$

$$3 \cdot 5 = 2x$$

$$\frac{15}{2} = \frac{2x}{2} \quad x = 7.5$$

②  $\frac{x}{y} = \frac{2}{3}$

$$\frac{2y}{3} = \frac{3x}{3}$$

$$x = \frac{2y}{3}$$

$$3(x+1) = 2(x-4)$$

$$\begin{array}{r} 3x+3 = 2x-8 \\ -2x \quad -2x \end{array}$$

$$x+3 = -8$$

③  $\frac{x-4}{x+1} = \frac{3}{2}$

$$\begin{array}{r} x+3 = -8 \\ -3 \quad -3 \end{array}$$

$$x = -11$$

④  $\frac{4}{8} = \frac{x}{7}$

$$4 \cdot 7 = 8 \cdot x$$

$$\begin{array}{l} 8x = 28 \\ x = 3.5 \end{array}$$

④ Find the equation of the line through (8, 4) (5, -3).

$$y = m(x - x_1) + y_1 \rightarrow$$

$$\begin{array}{c} \downarrow \\ y_2 - y_1 \\ -3 - 4 \\ \hline 5 - 8 \\ x_2 - x_1 \end{array} = \frac{-7}{-3} = \left(\frac{7}{3}\right)$$

$$y = \frac{7}{3}(x - 8) + 4$$

OR

$$y = \frac{7}{3}(x - 5) - 3$$

4 - A  
3 - B  
2 - C  
1 - F

⑤ Functions: given  $f(x) = 2x + 3$

① Find  $f(-2) = 2(-2) + 3$

$$f(-2) = -1$$

② Find  $f(6)$

$$f(6) = 2(6) + 3$$

$$f(6) = 15$$

③ Find  $x$  so that  $f(x) = 31$

$$31 = 2x + 3$$

$$28 = 2x$$

$$x = 14$$

④ Find  $x$  such that  $f(x) = 10$

$$10 = 2x + 3$$

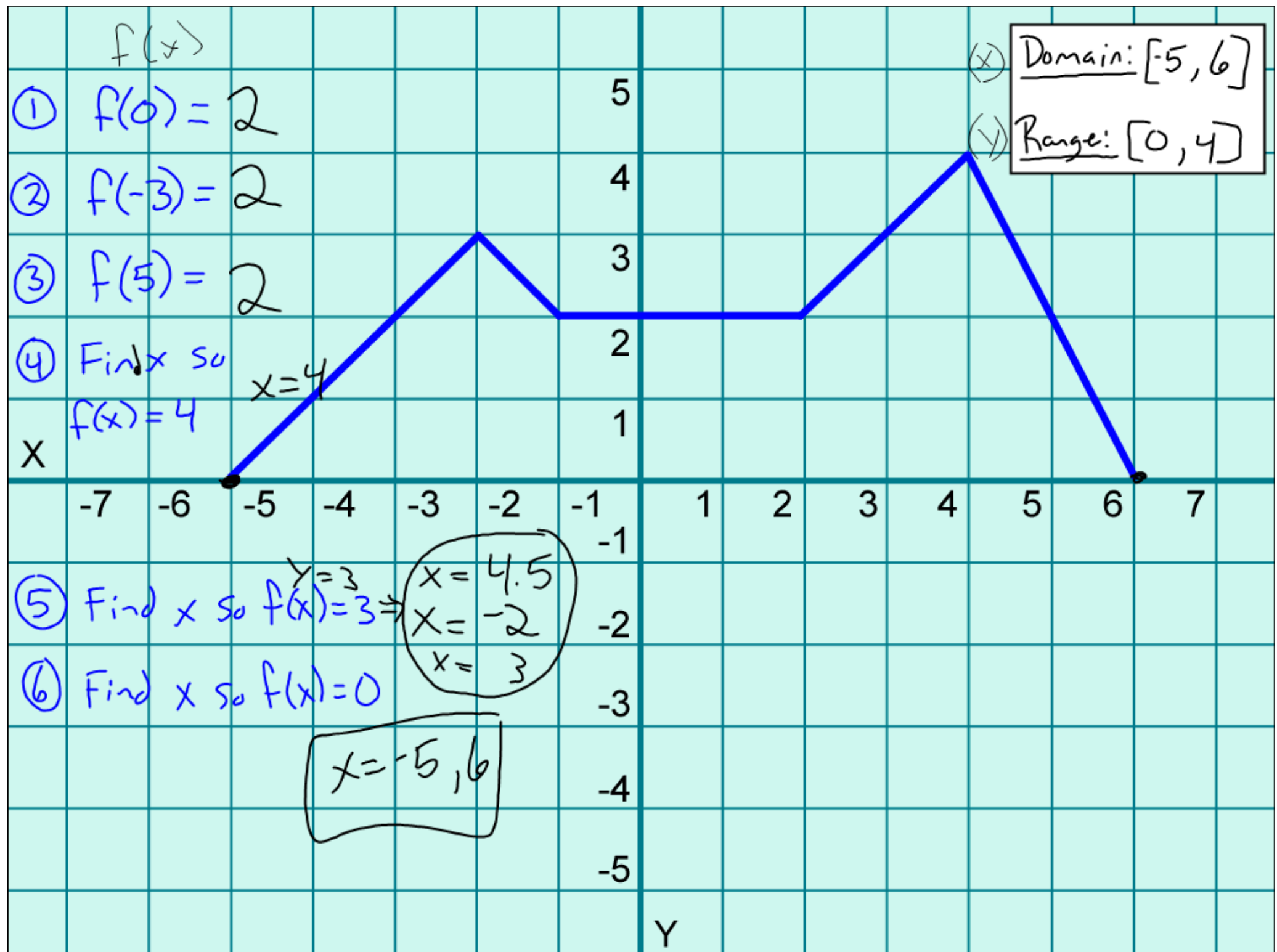
$$7 = 2x$$

$$x = 3.5$$

$$f(4) = 2(4) + 3$$

$$f(4) = 11$$





② Which data set is the most spread out?  
Support your answer with the standard deviation of each.

Set A: 5, 3, 6, 2, 0, 8

Set B: 4, 6, 2, 8, 3, 1

②

A	$x - \bar{x}$	$( )^2$
5	-1	1
3	1	1
6	2	4
2	-2	4
0	-4	16
8	4	16

mean = 4  
of data

42  
Average = 7  
 $\sqrt{\quad} = 2.65 = \sigma$

More  
Spread

B	$x - \bar{x}$	$( )^2$
4	0	0
6	2	4
2	-2	4
8	4	16
3	-1	1
1	-3	9

mean = 4

34  
Average = 5.66  
 $\sqrt{\quad} = 2.38 = \sigma$

Study for the test on Thursday